* 1. **Part 2: Divisibility Using Factors**

Name:\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_

**Lesson Focus:** Mathletes will be able todetermine the divisibility of number

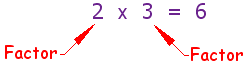
[**http://www.youtube.com/watch?v=UZYpOKtylxM**](http://www.youtube.com/watch?v=UZYpOKtylxM)

**Easily test if one number can be evenly divided by another!!!! Whoo hoo – some great little tricks to help us!!!!**

[**http://www.mathsisfun.com/divisibility-rules.html**](http://www.mathsisfun.com/divisibility-rules.html)

**Factors Can Be Useful**

Factors are the numbers you multiply to get another number:



This can be useful, because:

When a number is divisible by another number ...

... then it is **also** divisible by each of the factors of that number

**Ex #1:  
Use Divisibility Rules to Sort Numbers**

A) Sort the numbers according to divisibility by 6 and 9.

* + 30 79 162 3996 23,517 31,974
* Solution
  + Check for divisibility by 6. Is the number divisible by both 2 and 3?
  + Check for divisibility by 9. Is the sum of the digits divisible by 9? Use an organizer such as a Carroll or Venn diagram

1. We can organize our findings in a Carroll Diagram:

30 79 162 3996 23,517 31,974

A **Carroll Diagram** is a table that shows how numbers are the same and different



1. We can also organize our findings in a Venn Diagram

30 79 162 3996 23,517 31,974

A **Venn Diagram** shows relationships between groups of numbers.

**Ex #2: Use Divisibility Rules to Determine Factors**

1. What are the factors of 24?

* Solutions – Use a factor tree! - Use a Factor List!

1. What are the factors of 32?
2. What are the factors of 250?
3. What are the factors of 42?
4. What are the factors of \_\_\_\_\_\_\_\_\_?
5. What are the factors of \_\_\_\_\_\_\_\_\_\_?

**Ex 3 What is the greatest common factor of 24 and 32?**

(Hint: a factor tree can help!)

b) What is the GCF of 60 and 50?

c) What is the GCF of 36 and 42?

**Ex #4 Use Divisibility Rules to Write a Fraction in Lowest Terms**

1. Write 12/42 in lowest terms
2. Write 21/33 in lowest terms
3. Write 30/250 in lowest terms
4. Write 15/25 in lowest terms
5. Write 34/100 in lowest terms
6. Write 48/100 in lowest terms